Instruction Manual

HI 38016
Total Chlorine Medium Range Test Kit with Checker Disc

HANNA instruments

www.hannainst.com

Dear Customer,

Thank you for choosing a Hanna Product.

Please read the instruction sheet carefully before using the test kit. It will provide you with the necessary information for correct use of the kit. If you need additional information, do not hesitate to e-mail us at tech@hannainst.com.

Remove the chemical test kit from the packing material and examine it carefully to make sure that no damage has occurred during shipping. If there is any noticeable damage, notify your Dealer or the nearest Hanna office immediately.

Each kit is supplied with:

- HI 93711-0 Total Chlorine Reagent, packets (100 pcs);
- Deionized Water, 1 bottle (500 mL);
- 1 checker disc (containing the disc);
- 2 glass vials with caps;
- 1 plastic pipette (3 mL).

Note: Any damaged or defective item must be returned in its original packing materials.

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SPECIFICATIONS

Range	0 to 3.5 mg/L (ppm) as Total Chlorine
Smallest Increment	0.1 mg/L
Analysis Method	Colorimetric
Sample Size	5 mL
Number of Tests	100
Case Dimensions	235x175x115 mm (9.2x6.9x4.5")
Shipping Weight	977 g (34.5 oz.)

SIGNIFICANCE AND USE

Chlorine is the most commonly used water disinfectant in applications that vary from treatment of drinking water and wastewater, pool and spa sanitization, to food processing and sterilization. Chlorine present in water binds with bacteria, leaving only a part of the original quantity (free chlorine) to continue its disinfecting action. If the free chlorine level is improper with respect to pH, water will have an unpleasant taste and odor and the disinfecting potential of the chlorine will be diminished.

Free chlorine reacts with ammonium ions and organic compounds to form chlorine compounds resulting in diminished disinfecting capabilities compared with free chlorine. Chlorine compounds together with chloramines form combined chlorine. Combined chlorine and free chlorine together result in total chlorine.

While free chlorine has a much higher disinfectant potential, combined chlorine has a much higher stability and has a lesser volatility.

Note: mg/L is equivalent to ppm (parts per million).

CHEMICAL REACTION

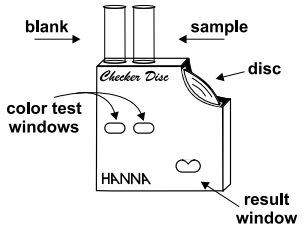
The reaction between chlorine and the DPD reagent causes a pink tint in the sample which is proportional to the chlorine concentration.

INSTRUCTIONS

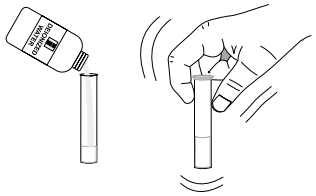
READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

- Use the pipette to fill each glass vial with 5 mL of sample (up to the mark).

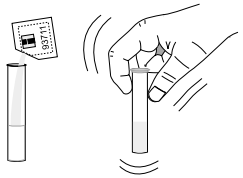
- Insert one of the vials into the left hand opening of the checker disc. This is the blank.



- Add to the other vial deionized water up to the 10 mL mark. Replace the cap and shake to mix.

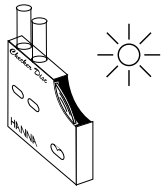


- Remove the cap and add 1 packet of HI 93711-0 reagent. Replace the cap and mix.

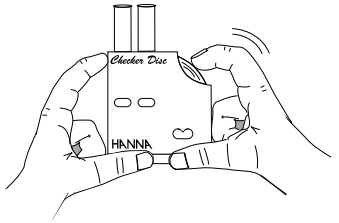


- Wait for 2 minutes to allow reaction to occur. This is the reacted sample.

- Remove the cap and insert the reacted sample into the right hand opening of the checker disc.
- Hold the checker disc so that a light source illuminates the samples from the back of the windows.



- Keep the checker disc at a distance of 30-40 cm (12-16") from the eyes to match the color. Rotate the disc while looking at the color test windows and stop when you find the color match. Read the value in the result window directly in mg/L (or ppm) of Chlorine.



For best results: Perform the reading three times and take the average value (divide by 3 the sum of the three numbers). Intensely colored samples will make the color matching difficult and they should be adequately treated before performing the test. Suspended matter in large amounts should be removed by prior filtration.

Caution: Ultraviolet radiation may cause fading of colors. When not in use, keep the disc protected from light, in a cool and dry place.

Interferences: bromine, iodine, fluorine, ozone, oxidized manganese and chromium.

REFERENCES

Adaptation of the EPA recommended DPD method 330.5.

HEALTH AND SAFETY

The chemicals contained in this kit may be hazardous if improperly handled. Read the relevant Health and Safety Data Sheet before performing this test.